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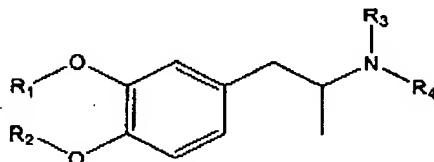
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Claims

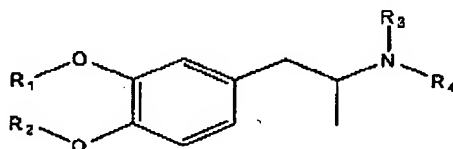
Claims 1-12 (canceled).

13. (previously presented) A method for determining a compound selected from the group consisting of 3,4-methylenedioxyamphetamine (MDA), 3,4-methylenedioxy-methamphetamine (MDMA), 3,4-methylenedioxyethylamphetamine (MDEA) and 4-hydroxy-3-methoxy-methamphetamine (HMMA), said method comprising:

- (a) providing in combination in a medium:
- (i) a sample suspected of containing said compound and
 - (ii) an antibody raised against a compound of the formula:



- wherein:
- R^1 is H or lower alkyl,
 - R^2 is $-(CH_2)_nC(O)R^6$,
 - R^3 and R^4 are independently H or lower alkyl,
 - R^6 is an immunogenic carrier, and
 - n is an integer from 1 to 5, and
 - (iii) a label conjugate of the formula:



- wherein:
- R^1 is H, lower alkyl $-(CH_2)_nC(O)R^6$,
 - R^2 is H, lower alkyl or $-(CH_2)_nC(O)R^6$,
 - wherein at least one of R^1 and R^2 is not H or lower alkyl,
 - R^6 is a label, and
 - n is an integer from 1 to 5, and

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(b) measuring signal from said label, the amount thereof being related to the presence of said compound in said sample.

14. (canceled)

15. (previously presented) A method according to Claim 13 wherein said method is a homogeneous method and said medium is examined for the amount of said signal.

16. (previously presented) A method according to Claim 13 wherein said method is a heterogeneous method and said complex, if present, is separated from said medium.

17. (previously presented) A method according to Claim 13 wherein said protein is selected from the group consisting of KLH, BSA, BGG and ovalbumin.

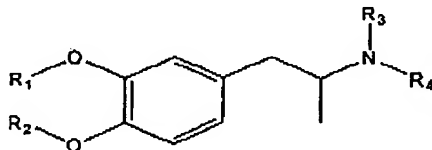
18. (previously presented) A method according to Claim 13 wherein n is 1.

19. (previously presented) A method according to Claim 15 wherein said label is an enzyme label, a luminescent label, or a radioisotope label.

20. (canceled)

21. (previously presented) A kit for determining a compound selected from the group consisting of 3,4-methylenedioxyamphetamine (MDA), 3,4-methylenedioxy-methamphetamine (MDMA), 3,4-methylenedioxyethylamphetamine (MDEA) and 4-hydroxy-3-methoxymethamphetamine (HMMA), said kit comprising:

- (a) an antibody for said compound,
- (b) a label conjugate of the formula:



wherein: R¹ is H or lower alkyl,

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R^2 is $-(CH_2)_nC(O)R^6$,

R^3 and R^4 are independently H or lower alkyl,

R^6 is a label, and

n is an integer from 1 to 5,

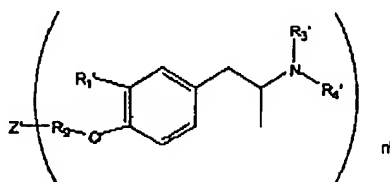
(c) ancillary reagents for determining said compound.

Claims 22-23. (canceled).

24. (previously presented) A kit according to Claim 21 wherein said label is an enzyme label, a luminescent label, or a radioisotope label.

25. (previously presented) A method for determining methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine in a sample suspected of containing methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine, said method comprising:

- (a) providing in combination in a medium:
 - (i) said sample,
 - (ii) an antibody for methylenedioxyamphetamine, and/or
 - (iii) an antibody for methylenedioxymethamphetamine, and/or
 - (iv) an antibody for methylenedioxyethamphetamine, and
 - (v) a compound of the formula:



wherein:

$R^{1'}$ is H, or methyl or ethyl

$R^{3'}$ is H,

$R^{4'}$ is H, or methyl or ethyl,

R^9 is $-(CH_2)_nC(O)$,

Z' is an enzyme,

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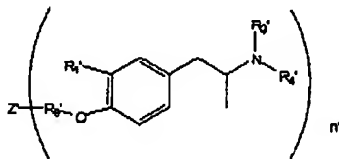
n is an integer from 1 to 5,
 n' is an integer between 1 and the molecular weight of said enzyme divided by about 500;
 and

(b) examining said medium for the presence of a complex comprising said methylenedioxyamphetamine and said antibody for methylenedioxyamphetamine and/or a complex of said methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine and/or a complex of said methylenedioxyethamphetamine and said antibody for methylenedioxyethamphetamine, the presence thereof indicating the presence of said methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine in said sample.

Claim 26. (canceled).

27. (previously presented) A method for determining methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine in a sample suspected of containing methylenedioxyamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxyethamphetamine, said method comprising:

- (a) providing in combination in a medium:
 - (i) said sample,
 - (ii) a conjugate of an enzyme and a methylenedioxyamphetamine analog and a conjugate of an enzyme and a methylenedioxymethamphetamine analog and a conjugate of an enzyme and a methylenedioxyethamphetamine analog,
 - (iii) an antibody for methylenedioxyamphetamine, said antibody being raised against a compound of the formula:



wherein:

R¹ is H, or methyl or ethyl

R³ is H,

R⁴ is H,

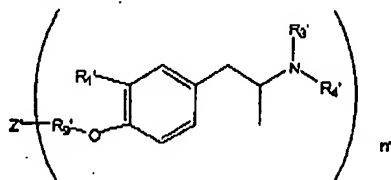
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 $R^{9'}$ is $-(CH_2)_nC(O)$, Z' is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier, n is an integer from 1 to 5,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and

(iv) an antibody for methylenedioxymethamphetamine, said antibody being raised against a compound of the formula:

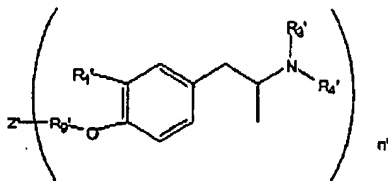


wherein:

 $R^{1'}$ is H, or methyl or ethyl $R^{3'}$ is H, $R^{4'}$ is methyl, $R^{9'}$ is $-(CH_2)_nC(O)$, Z' is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier, n is an integer from 1 to 5,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and

(v) an antibody for methylenedioxyethamphetamine, said antibody being raised against a compound of the formula:



wherein:

 $R^{1'}$ is H, or methyl or ethyl $R^{3'}$ is H, $R^{4'}$ is ethyl, $R^{9'}$ is $-(CH_2)_nC(O)$,

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Z' is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n is an integer from 1 to 5,

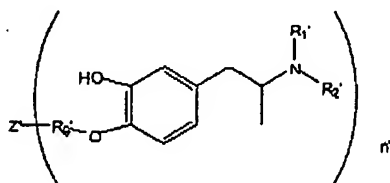
n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and

(b) examining said medium for the presence of a complex comprising said methylenedioxyamphetamine and said antibody for methylenedioxyamphetamine and a complex of said methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine and a complex of said methylenedioxyethamphetamine and said antibody for methylenedioxyethamphetamine, the presence thereof indicating the presence of said methylenedioxyamphetamine and methylenedioxymethamphetamine and/or methylenedioxyethamphetamine in said sample.

Claims 28-29 (canceled).

30. (previously presented) A kit comprising in packaged combination:

- (i) an antibody for methylenedioxyamphetamine,
- (ii) an antibody for methylenedioxymethamphetamine, and/or
- (iii) an antibody for methylenedioxyethamphetamine, and
- (iv) a compound of the formula:



wherein:

R¹ is H,

R² is H, or methyl or ethyl,

R³ is -(CH₂)_nC(O),

Z' is an enzyme,

n is an integer from 1 to 5,

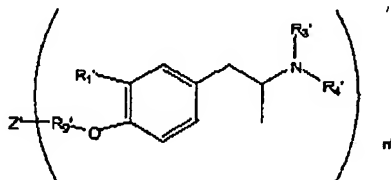
n' is an integer between 1 and the molecular weight of said enzyme divided by about 500.

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31. (previously presented) A kit comprising in packaged combination:

- (i) a conjugate of an enzyme and a methylenedioxyamphetamine analog and/or a conjugate of an enzyme and a methylenedioxymethamphetamine analog, and/or a conjugate of an enzyme and a methylenedioxyethamphetamine analog, and
- (ii) an antibody for methylenedioxyamphetamine, said antibody being raised against a compound of the formula:



wherein:

$R^{1'}$ is H, or methyl or ethyl

$R^{3'}$ is H,

$R^{4'}$ is H,

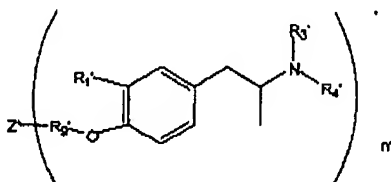
$R^{9'}$ is $-(CH_2)_nC(O)$,

Z' is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n is an integer from 1 to 5,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and

- (iii) an antibody for methylenedioxymethamphetamine, said antibody being raised against a compound of the formula:



wherein:

$R^{1'}$ is H, or methyl or ethyl

$R^{3'}$ is H,

$R^{4'}$ is methyl,

$R^{9'}$ is $-(CH_2)_nC(O)$,

Z' is a protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

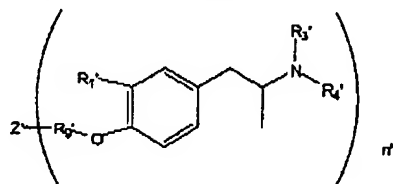
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n is an integer from 1 to 5,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500, and

(iv) an antibody for methylenedioxyethamphetamine, said antibody being raised against a compound of the formula:



wherein:

R_1' is H, or methyl or ethyl

R_3' is H,

R_4' is ethyl,

R_2' is $-(CH_2)_nC(O)$,

Z' is a protein immunogenic carrier in or a non-poly(amino acid) immunogenic carrier,

n is an integer from 1 to 5,

n' is an integer between 1 and the molecular weight of said protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500.

Claim 32 (canceled).